

CHRONICLES IN CARTOON

A RECORD OF OUR OWN TIMES.

XI.—SCIENCE AND MEDICINE

THIS month I have to deal with men who during the last half-century have made their reputation in science and medicine. Amongst the subjects of these cartoons are many who not only were honoured by their contemporaries, but who will inspire generations yet to come with feelings of respect, gratitude, and admiration. During its history of close upon forty years, the artists of *Vanity Fair* have been sufficiently fortunate to obtain sittings from such pioneers in the application of science to the practical needs of humanity as Lord Kelvin and Lord Rayleigh, such master minds of research as Charles Darwin, Herbert Spencer, and Professor Huxley, in addition to men whose discoveries have lightened the sufferings of mankind, such as Jenner and Pasteur. Indeed, when we remember how brief is the period—as time goes in the world's history—during which the paper has existed, we must of necessity be astonished at this constellation of names, which has not its equal in any similar period.

Freedom of inquiry and the greater facilities for education and investigation have contributed to this end. I do not say that all their victories were peacefully achieved. Many found arrayed against them the *odium theologicum*, and that spirit of rancour which must attend any great dis-

covery which revolutionises the settled opinions of mankind. Yet, even in the mid-Victorian period we did not burn our distinguished *savants*; though I do not say that at the Universities they were never without danger of lynching on the part of the more orthodox authorities.

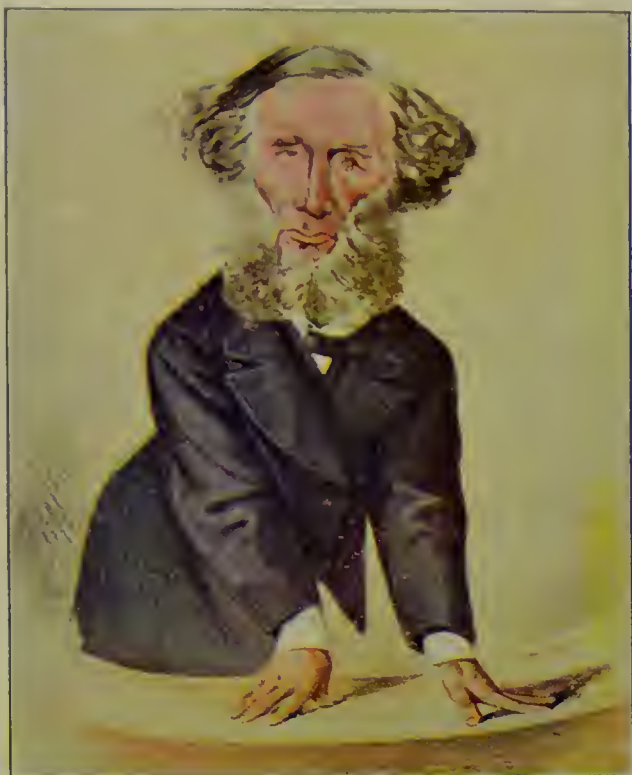
In addition to the theological opposition, they encountered the distaste of the elder school of biologists, who founded their system of inquiry on the accepted English tradition, which may be exemplified by the work of White of Selborne. To this school there seemed something almost presumptuous in the broad and complete inquiries which were first carried out in France, afterwards in Germany, and still later in our own country, by such men as Darwin and Huxley.

It was at a time when this opposition to which I have referred was still undiluted by common sense that the cartoon of Darwin appeared. It is curious to note how the writer of



CHARLES DARWIN. 1871.
"Natural Selection."

Mr. Darwin's biography sat rather ungracefully upon the fence when he came to discuss the discoveries of his subject. It is interesting to quote his words: "For hundreds of years, as we know, and, as we may infer, for thousands, the few were fain to content themselves with the conclusion that they knew nothing whatever about the earth and its inhabitants. In modern times, how-



JOHN TYNDALL. 1872.

"The scientific use of the imagination."

ever, the method has been adopted of interrogating that earth and those inhabitants themselves, without reference to any real or supposed authority. And although, in so vast a field of labour, it has as yet not been possible to achieve any very great results, certain new theories have been built up. Amongst these theories, one of the most striking is that which Mr. Darwin has given to the world with reference to the origin of species by means of natural selection."

With Darwin's life everyone is tolerably familiar. He spent the whole of it in close converse with the material world in which we live and the beings that it has from time to time seen upon its surface. His books were ever written in a plain and lucid style, which, no doubt, was intentionally designed to appeal to the ordinary man. His name will be handed down to posterity as that borne by a man who devoted his life with incredible industry to the solution of the most momentous problems by which mankind is confronted.

In his autobiography, Darwin confesses that as a little boy he was much given to inventing deliberate falsehoods, and this was always done for the sake of causing excitement. He once gathered much valuable fruit from his father's garden and hid it in a shrubbery, and then ran in breathless haste to spread the news that he had discovered a hoard of stolen fruit.

Once, whilst at a day-school, he beat a puppy, simply, he believed, from enjoying the sense of power; but the beating could not have been severe, for the puppy did not howl. This act lay heavily on his conscience, and he always remembered the exact spot where the beating took place. The incident is all the more curious because he had a great love for dogs, and was an adept at stealing away their affections from their rightful owners.

Darwin was sent to Edinburgh University with a view to becoming a physician; but he could not conquer his disgust for human dissection. On two occasions he attended the operating theatre and saw two very bad operations, one on a child; but he rushed away before they were completed. He says the two cases haunted him for many a long year.

At Cambridge he led a varied, healthy life, not over industrious in the set studies of the place. He seemed to divide his time between entomology—collecting beetles amounted to a passion with him—riding, shooting in the fens, suppers, and card-playing, walks with Professor Henslow, and listening to the music



HUXLEY. 1871.

"A great Medicine-Man among the Inquiring Redskins."



LOUIS PASTEUR. 1887.
"Hydrophobia."

in King's College Chapel. On one occasion at the finish of a beautiful anthem he turned to a friend and said with a deep sigh: "How's your backbone?" He often remarked of a feeling of coldness or shivering in his back on hearing beautiful music.

Captain Fitzroy, who commanded the *Beagle*, in which vessel Darwin circumnavigated the globe, was not much impressed with his appearance upon their first meeting. Darwin has said: "I had run a very narrow risk of being rejected (as naturalist to the expedition) on account of the shape of my nose. Fitzroy was an ardent disciple of Lavater, and was convinced that he could judge of a man's character by the outline of his features; and he doubted whether anyone with my nose could possess sufficient energy and determination for the voyage. But I think he was afterwards well satisfied that my nose had spoken falsely."

In all parish matters he was an active assistant; in matters connected with schools, charities, and other business, his liberal



HERBERT SPENCER. 1879.
"*Philosophy.*"



DR. JOHN SCOTT BURDON SANDERSON. 1894.
"*Oxford Physiology.*"

contribution was ever ready. Some time after he went to live at Down he helped to form a Friendly Club, and served as treasurer for thirty years. He took much trouble with it, keeping its accounts with minute and scrupulous exactness. Every Whit Monday the club marched round with band and banner and paraded on the lawn in front of the house. There he met them, and explained to them their financial position in a little speech seasoned with a few well-worn jokes.

Of Darwin's many writings, the "Origin of Species" must be considered his masterpiece. He was extremely anxious about its reception, and he wrote in trepidation to Huxley for his opinion, which, of course, was distinctly favourable.

Darwin enjoyed Huxley's humour exceedingly, and would often say: "What splendid fun Huxley is!" One of his favourite sayings was: "It's dogged as does it." He always treated his servants with politeness,

using the expression: "Would you be so kind?" in asking for anything.

To Huxley on his marriage he said: "I hope your marriage will not make you idle: happiness, I fear, is not good for work."

In the same year that Darwin appeared in *Vanity Fair's* gallery the cartoon of Professor Huxley was also printed. He

remark, however, the attack on the great professor was not pressed so keenly, for his biographer thus concluded: "There is no popular teacher who has contributed more to the awakening of the intellect, and whose career in the future may be more confidently associated in idea with all that is manly and progressive in social science and comprehensive, to say the least, in physical research."

During his student days at Charing Cross Hospital, Huxley spent most of his leisure hours in the library of the College of Surgeons, to reach which he was in the habit of walking through the most squalid courts and alleys at the back of the Strand. He was never molested, but often wondered why the wretched and generally demoralised inhabitants of those sordid streets did not sally forth



LORD RAYLEIGH. 1899.
"Argon."

also had aroused against him a strenuous opposition. As his biographer said of him, he was the most popular man "in the annual gatherings and other ceremonials observed by the various tribes of the great Philistine family, who roam over the deserts of the Metropolis to the terror of the ecclesiastical police, and the intense disgust of the respectable portion of society who go clothed and in their right mind." Professor Huxley, it is interesting to remember, was almost the first prominent man of science in this country to favour the higher scientific education of women. "Jehu Junior" was, indeed, very severe with him in all respects. "He refuses to believe in angels because the telescope has not yet discovered them. Like a man who hops on one leg, instead of walking erect with his face heavenwards, he has to pick his steps with care through the mud of materialism, and in this way it has come to pass that he has stumbled on protoplasm." After which



LORD KELVIN. 1897.
"Natural Philosophy."

in mass and get a few hours' eating and drinking and plunder to their heart's content before the police could stop them. But in reply to this question, a detective, who was in the habit of dealing with such a populace,



SIR FREDERICK TREVES. 1900.
"Freddie."



RUDOLF VIRCHOW. 1893.

said: "Lord bless you, sir, drink and disease leave nothing in them."

Huxley was a very diligent student, and after lectures were over, his fellow-students would invariably catch sight of his head at a certain window bent over a microscope while they amused themselves outside. The constant silhouette framed in the outlines of the window tickled their fancy, and a wag amongst them dubbed it with a name that stuck: "The Sign of the Head and Microscope."

It is a curious coincidence that, like two other leaders of science, Darwin and Hooker, their close friend Huxley began his scientific career on board a ship. He was appointed to the frigate *Rattlesnake* as assistant surgeon, and messed in the gunroom with the middies. A man in the midst of a lot of boys, he often had a rather unenviable position; but Huxley's constant good spirits and fun, when he was not absorbed in his work, his freedom from any assumption of superiority over them, made the boys his good comrades and allies. During the voyage Huxley never lost an opportunity of going ashore, sometimes at considerable risk.

At Cape York he formed one of the landing-party which was within an ace of coming to blows with the natives. A portly member of the gunroom, being cut off by these black gentry, only saved his life by parting with all his clothes as presents to them, and keeping them amused by an impromptu dance in a state of nature under the broiling sun, until a party came to his relief. On another occasion Huxley received some very unwelcome attention from a native chief, who saw in him the returning spirit of his dead brother.

From a worldly point of view, science didn't pay in the early 'fifties. Huxley, bemoaning his prospects, wrote: "The difficulties of obtaining a decent position in England in anything like a reasonable time seem to me greater than ever they were. To attempt to live by any scientific pursuit is a farce. Nothing but what is absolutely practical will go down in England. A man of science may earn great distinction, but not bread. He will get invitations to all sorts of dinners and conversaziones, but not enough income to pay his cab fare."

SIR WILLIAM JENNER. 1873.
"Physics."

Upon the appearance of the "Origin of Species," he wrote to Darwin, saying: "As for your doctrine, I am prepared to go to the stake in support of it. I am sharpening my beak and claws in readiness." This gives the keynote to much of Huxley's life. A keen debater and logical reasoner, readily

battles is inspiring to remember. Darwin rather shrank from controversy; but on one occasion he was moved to turn and rend the assailant. Before publishing the paper in reply, however, he sent it to Huxley, authorising him to omit two pages of it if he thought fit. Huxley promptly cancelled them, and sent Darwin a delicious little note saying that the retort was so excellent that if it had been his own, he should hardly have had virtue enough to suppress it; but although it was well deserved, he thought it would be better to refrain. "If I say a savage thing, it is only 'pretty Fanny's way'; but if you do, it is not likely to be forgotten."

There was a friend worth having.



DR. LYON PLAYFAIR. 1875.
"Chemistry."

foreseeing the future effects of present causes, he would have had few equals, if any, in the House of Commons if he had turned to politics.

Huxley was an omnivorous reader—history, politics, metaphysics, poetry, novels, nothing came amiss to him. But he cherished a wholesome contempt for mere bookishness in science. A rash clergyman once, without further equipment in natural history than some desultory reading, attacked the Darwinian theory in sundry magazine articles, in which he made himself uncommonly merry at Huxley's expense. But the great man was not to be drawn. The author, therefore, proceeded to write to Huxley, and with mock modesty asked for advice as to the further study of these deep questions. Huxley's answer was brief and to the point: "Take a cockroach and dissect it."

How sturdily Huxley fought Darwin's



SIR WILLIAM GULL. 1875.
"Physiological Physic."

It has been said that on one occasion when walking in Middlesex with Owen, and being doubtful of the locality, Huxley stooped and plucked some turf, and upon examining the ground said: "Uxbridge."

Professor Tyndall was one of the most distinguished of that band of men whose devotion to methods and subjects of research.



SIR WILLIAM HUGGINS. 1903.
"Spectroscopic Astronomy."

by which the bases of prejudices were sapped, was in the end condoned by even the most prejudiced of their opponents. He was by birth an Irishman, and had all the combativeness of his race. For Europe and America he was the representative of English chemistry and physics, as Huxley was of English physiology. He succeeded Faraday at the Royal Institution, and the mantle of that great man well became him. He was a man of muscle, of imagination, and of conversation, as well as a man of science, and in society he was generally popular. He was a great Alpine climber, and a most amusing talker at dinner-parties and in the corners of smoking-rooms.

Mr. Herbert Spencer won the greatest name amongst English philosophers. As it is the habit of the English to be generally ignorant about their greatest men, it is interesting to remember that while he was little known at home, he enjoyed abroad a reputation as one of the leaders of modern thought. He was the son of a schoolmaster, who endeavoured to make him a civil engineer: but young Spencer resisted Greek and Latin and renounced engineering. From the time he

was one-and-twenty he was writing serious essays in good English of a frigid sort. When Darwin invented evolution, however, evolution invented Herbert Spencer, who saw how the notion might be applied to mankind. He fell foul of Comte and Mill, and began to publish enormous volumes, which were very little read by an ungrateful and ignorant nation.

However, the fact that he was little understood increased his reputation mightily, for this is the way of the English. As "John Junior" said of him: "He is now the one recognised authority on sociology, he has discovered 'that ultimate scientific ideas are all representatives of realities that cannot be comprehended,' and that the man of science 'knows that in its ultimate essence nothing can be known': yet he goes on writing. He is believed by many to be a companionable, cheerful man. He has been more than once to a shareholders' meeting to war with railway directors. He delights in children, and holds that suicide should rather be encouraged; yet he goes on living."



SIR ROBERT BALL. 1905.
"Popular Astronomy."

Unlike most professors, Dr. Burdon Sanderson found his regular work insufficient for his active inclination, and while he held his post at University College, found time to investigate the cattle plague, to inquire into spotted fever in North Germany, and to write many recondite works, not only on medical subjects, but on such subjects as the electric organs in fishes. In the end, he was naturally elected to an Oxford professorship.

Dr. Sanderson was ever an absent-minded man. On one occasion he astonished a nervous undergraduate, who was undergoing his *viva voce* examination, by suddenly addressing him in German. More than once he took up by mistake, and put on, an ordinary undergraduate's gown, parading the streets of Oxford thus attired, to the general amusement. He had not the toughness of constitution which made immense labours possible to Professor Virehow.

To Lord Kelvin the British nation owes a personal gratitude. By his inventions in submarine telegraphy he has undoubtedly aided in promoting that Imperial spirit



SIR ERASMUS WILSON. 1880.
"The Obelisk."



SIR WILLIAM CROOKES. 1903.
"Ubi Crookes ibi lux."

which never could have flourished luxuriantly without the aid of constant and reasonably cheap communication. Also, those who go down to the sea in ships have good cause to remember the man who invented the Sir William Thompson's mariners' compass, as well as the navigational sounding-machine. Before his day it was a pose of the man of science to neglect the practical application of his discoveries. Lord Kelvin was one of the first to apply his great genius to the immediate advantage of mankind.

He came of a distinguished mathematical family, his father being a professor at Glasgow. He himself was born in Belfast, and at Cambridge made himself Second Wrangler and Smith's prizeman. Unlike the majority of Scotchmen, he returned to Glasgow, as Professor of Natural Philosophy, and there it was that he began that long series of inventions to which I have referred. As his biographer said of him, he is "a very great, honest, and humble scientist, who has written much and done more."

Lord Rayleigh is the third baron of his house. He left Trinity as Senior Wrangler



SIR WILLIAM BROADBENT. 1902.
"Orthodoxy."



SIR RICHARD QUAIN. 1883.
"Lord Beaconsfield's Physician."

and first Smith's prizeman, and so they made a Fellow of him. Since then seven other Universities have delighted to honour him with degrees. Perhaps his most famous discovery was that of argon, by which he exploded the views of generations of distinguished chemists. He is a very earnest man, and his unaesthetic home of white brick, in the wilds of Essex, is a glorified laboratory. He married a sister of Mr. Arthur Balfour, and, as "Jehn Junior" said, consequently acquired the family habit of lolling. That impertinent biographer, moreover, added that "though he is generally brewing a vile odour, he is really a great man. He infinitely prefers the laboratory to the platform, where he generally looks like a tired dog trying to find a corner to lie down in."

Sir William Jenner, whose name will always be remembered with gratitude, was the first to discover and to point out the difference between typhoid and typhus fever. He attended the Prince Consort in his fatal illness, and from that time became a personality at Court. He was peculiarly careless in his dress, and it is said that from time to time he received hints from august quarters

that he should get a new suit. He became famous, according to his biographer in *Vanity Fair*, by curing men of one disease by giving them another.

Sir William Gull led a laborious life and obtained brilliant results. As a young man he conceived an enthusiasm for medicine which he retained to the end of his life. He believed, and he was not slow to make public his belief, that science would in the end raise the human race to something approaching perfection. It was in this frame of mind that he went to work. He was sparing of drugs, and observant of the patient, seeking less to battle violently with disease as with an enemy, than to woo Nature gently as a friend to that restoration of her functions which he so often achieved. To him we owe a special debt of gratitude in that he was mainly instrumental in snatching the King, as Prince of Wales, from death. He was a philosopher and a man of strong will, yet of gentle presence, with a manner which gave comfort and confidence to those whom he attended.



MR. JONATHAN HUTCHINSON. 1890.



SIR THOMAS BARLOW, BART.
Physician to His Majesty's Household.

Sir William Gull always said his real education had been given to him by his mother, a very strenuous woman. To the end of his life he would quote a nursery rhyme she had instilled into him :—

If I were a tailor, I'd make it my pride
The best of all tailors to be ;
If I were a tinker, no tinker beside
Should mend an old kettle like me."

Notwithstanding his great ability, he had at the early period of his career a remark-



SIR FRANCIS LAKING. 1903.
The King's Physician.

able lack of confidence in his own powers, as is shown by the following incident. During an examination he was about to leave the room, saying that he knew nothing of the case proposed for comment ; fortunately a friend persuaded him to return, with the result that the thesis he then wrote gained for him his Doctor's degree and the gold medal.

Once when Gull had attended a poor patient with heart disease, it is recorded that he was extremely anxious for a *post-mortem* examination. With great difficulty this was



SIR ANDERSON CRITCHETT. 1905.
The King's Oculist.

granted, but with the proviso that nothing was to be taken away, and the sister of the deceased patient, a strong-minded old maid, was present to watch the proceedings. Gull saw that it was hopeless to conceal anything from her, or to persuade her to leave the room. He therefore deliberately took out the heart, put it in his pocket, and looking steadily at her, said: "I trust to your honour not to betray me." His knowledge of character justified the result, and the heart is now in Guy's Museum.

Visiting one day an hysterical lady, who was causing great anxiety to her friends and medical attendant, Sir William reassured them, saying: "There is nothing really wrong: Mrs. X is herself multiplied by four." An over-anxious patient was encouraged and cheered by being told that he was "a healthy man out of health."

Gull's Sunday morning walks round the wards were always full of interests of all sorts, and in the end, on more than one occasion, he has taken a familiar friend by



SIR RICHARD DOUGLAS POWELL. 1904.
"Chests."



SIR MORELL MACKENZIE. 1887.
"Diseases of the Throat."

the arm and, gently pushing him towards the chapel, has said: "I have taught you all I can this morning; go and learn something there."

The severe illness of King Edward, when Prince of Wales, from typhoid fever, in 1871, gave Sir William an exceptional opportunity for the exercise of his varied powers as a physician; and the following passage, which appeared in the *Times*, December 18th of the same year, is of interest. It not only marks the estimation in which his services were held by those who watched by the sick-bed at Sandringham, but it gives a striking illustration of that minute care in detail which was characteristic of his treatment of the sick. "In Dr. Gull were combined energy that never tired, watchfulness that never flagged; nursing so tender, ministry so minute, that in his functions he seemed to combine the duties of physician, dresser, dispenser, valet, nurse—now arguing with the sick man in his delirium so softly and pleasantly that the



PROFESSOR RAY LANKESTER. 1905.
"His religion is the worship of all sorts of winged and funny freaks."

parched lips opened to take the scanty nourishment on which depended the reserves of strength for the deadly fight when all else had failed—now lifting the wasted body from bed to bed, now washing the worn frame with vinegar, with ever ready eye and ear and finger to mark any change and phase, to watch face and heart and pulse, and passing at times twelve or fourteen hours at that bedside.”

After the recovery of the Prince, Sir William remarked: “He was as well treated and nursed as if he had been a patient in Guy’s Hospital.”

Gull did not believe in excessive drugging, and his treatment of disease on rational principles, rather than by drugs, did not always meet with grateful recognition. A patient who had passed successfully through a severe attack of typhoid fever, without medicine, was congratulated by Dr. Gull on his recovery. “Yes,” replied the man, “and no thanks to you, either.”

Here are a few of Gull’s notes and aphorisms:—

There are a good many general practitioners; there is only one good universal practitioner — “a warm bed.”

Popularity is the admiration of those who are more ignorant than ourselves.

A little learning is a dangerous thing—not if you know how little it is.

Acland, do you know what I am?—I am a Christian agnostic.

I could often wish there was more *faith* in *physiological* laws.

Gull had many poor people among his patients to the last. Late one night, on returning tired from a long journey, the cabman, on receipt of his fare, still held out his hand with the money in it, hesitated, and said: “But could you give me something

for my cough?” The man was taken into the house, prescribed for, and sent away happy.

Sir William Huggins over sixty years ago built himself a private observatory on Tulse Hill, and devoted himself to the earth’s neighbours. He practically invented spectroscopic astronomy, and after that continued his researches with the result that he soon made himself a high reputation. He is supposed to know more about comets than

any other man, and, though he is eighty-two years of age, planets, nebulae, and double stars are still his playthings. He has lectured much and well, and has written many scientific and very original papers. He has ever been an observant and indefatigable worker; yet he has his human side, for he has a love of music and art, of botany and fishing, while he has always been a collector of antiquities.

Sir Robert Ball is one of the most genial of astronomers. He applies a merry eye to the telescope and smiles benevolently at the stars. He was born in Dublin, but English schools and universities have taught him to tolerate the Englishman, though they have failed to eradicate that most precious of

possessions—a Celtic sense of humour. It was at the Observatory near Dunsink that he wrote the majority of those books on astronomy which have made his name well known throughout the country. As the simplicity of his style caused him to be regarded with a natural suspicion by the more pedantic mathematicians, he saved his good name by a *magnum opus* on the theory of screws. In 1892 he left the observatory to sit in the Chair that Cambridge offered him. Sir Robert plays a good game of golf, and has of late developed a taste for politics.



SIR FELIX SEMON. 1902.
“Laryngology.”

The Spectacle Makers have made him a liveryman of their body.

Sir William Crookes began life inquiringly, and at sixteen, after damaging much of the paternal furniture by acids and explosions, was an active student in the Royal College of Chemistry. He invented the radiometer, he discovered thallium, he evolved the genesis of elements, and founded *The Chemical News*. Without the Crookes tube, the Röntgen rays were unknown. He is a man of science who has done much to benefit the world very practically. One of the most interesting sides of his character is his devotion to spiritualism. It is, indeed, curious that two of our leading scientists are earnest believers in that religion, or whatever we may like to call it. He has seen spirits materialised in broad daylight, and one of them was so often in his house that it became quite a favourite with the children. Yet he will admit that he has been occasionally deceived, as all spiritualists must be, while there is money to be made from tricks easily practised.

Sir William Broadbent, one of our most eminent physicians, first made his name by his knowledge of the heart. His long and distinguished services raised him to a baronetcy. As his biographer said of him: "He is very orthodox indeed; he is a very general specialist; and he has a strong objection to self-advertisement. He has a determined upper lip, and has described himself as a diligent reader."

Sir William Broadbent has attained almost every distinction within the scope of the medical profession, in addition to the Fellowship of the Royal Society and many academic honours.

He began his medical study in the Manchester Medical School, but in 1858 he graduated at London University and was appointed Resident Medical Officer at St. Mary's Hospital. From that date onward his life has been closely associated with its medical school. His lectures in medicine were carried on for no less than seventeen years, and the recollection of them lives in the memory of many a former student of St. Mary's.

In 1892, Broadbent was appointed physician to the Prince of Wales, and in the following year, on the occasion of the marriage of the Duke of York, Queen Victoria conferred upon him a baronetcy. The announcement of this honour was received with satisfaction by the whole of the profession. Dr. Broadbent won his

scientific spurs by his contributions to neurology and to our knowledge of fevers, and had achieved a great reputation as a clinical teacher. His clinical studies have done much to further our knowledge of the diagnostic indications afforded by the pulse and of the treatment of obscure diseases.

Three generations ago, a Highlander, Mackenzie by name, set his face towards the Border. In England he prospered, leaving a fair fortune. His grandson grew into a mad-doctor of much ability and retiring habits. To this doctor was born a son, one Morell Mackenzie, who took a high degree at the University of London, abjured the retiring habits of his father, and prospered so well that in a few years he was one of the leading men in his profession. He became a specialist in diseases of the throat and nose. With the general public, however, he first achieved fame by being summoned to Germany to treat the throat of the Crown Prince.

Many of the works published by Mackenzie have been translated into the more important European languages, a sure testimony of a world-wide reputation. He was a most voluminous writer, and in addition to professional subjects, his essays covered more general topics, including the "Singing Voice," "Effect of Smoking," "Exercise and Training," "Health Resorts," "Yachting," &c. His classic work, "Diseases of the Throat and Nose," still remains *the* book on the subject.

Many examples of Mackenzie's ready wit, good-natured satire, and humour could be culled from his various books and essays. He was facile in writing, and a purist; always concise and terse; logical in setting out his ideas, scholarly and graceful in his treatment of language. Mackenzie was a man of great refinement and cultured tastes, and he loved to surround himself with the best of all that art and literature could give; he could never tolerate the commonplace, and felt a contempt for respectable mediocrity. Mackenzie was a good conversationalist, an excellent *raconteur*, and his table talk was always charming. His long experience of men had enriched his memory with many amusing incidents, and a dinner-table at which Mackenzie was present was never dull.

What the stage thought of him was shown by the splendid testimonial with which the actors of London presented him. This consisted of a magnificent silver bowl, on which was the following inscription: "To Sir Morell Mackenzie, M.D., a grateful tribute of regard from those whose names are in-

scribed on this bowl, July 6th, 1889." The bowl contains facsimile signatures of the subscribers of the testimonial, and amongst many others occur the names of Henry Irving, Ellen Terry, W. H. Kendal, Wilson Barrett, John Hare, J. L. Toole, Edward Terry, etc. On this occasion Lord Randolph Churchill, who took the chair, referred in an eloquent manner to the eminent services of Sir Morell Mackenzie to medical science. Henry Irving, who presented the testimonial, followed with a speech which conveyed the warm and lasting regard of his profession to the eminent specialist. Scarcely an actor or singer of repute but has had cause to value his friendship, and to appreciate his professional skill, while hundreds of struggling artists and persons of straitened means were never refused his best services.

Sir Anderson Critchett was a Harrow boy, and later went to Cains College, Cambridge, and graduated B.A. in 1867. Those who remember him as an undergraduate retain the recollection of a genial and versatile companion; an enthusiast at athletics, and an ardent student of English literature. After graduating he studied for some time in Paris and in Germany. Most of his professional career was spent at St. Mary's Hospital; but previously to 1881 he had been attached to Moorfields and the Royal Free Hospitals. Sir A. Critchett's manipulative skill in eye surgery is wonderful to witness. One of the most remarkable occasions was that of the meeting of the International Medical Congress in London. Some forty or fifty distinguished ophthalmic surgeons from all parts of the world were present in the operating-theatre at St. Mary's, and Mr. Critchett performed thirteen operations. The number sounds unlucky, but the operations were all successful. Nor have those hands lost their cunning; there is no more efficient and careful operator in London or out of it.

Sir A. Critchett's ability as a debater has been demonstrated by many speeches. He can deliver an address with singular power and earnestness, with all the effect and *verve* at the command of a ready and cultured speaker.

Sir A. Critchett takes the keenest interest in every branch of athletics, and, a cricketer himself, was a member of the Incogniti Cricket Club. He was president of the Athletic Club at St. Mary's, and also of the Inter-Hospital Athletic Club. It was a great pleasure to him when some years ago he was elected a member of the I Zingari.

Critchett is the acknowledged authority on the operative treatment of cataract, and in writing on this subject in his "Archives of Ophthalmology," Knapp, of New York, records his conviction that Sir Anderson Critchett's method eclipses all others; the operator has been generally adopted by ophthalmic surgeons all over the world.

Practical efficiency was the leading characteristic of Critchett's reign at St. Mary's Hospital; a finished operator, a genial and interesting teacher, who could generally give a quotation from Shakespeare or some other author to illustrate the points he wished to convey. At dinner parties his rich baritone voice was in great demand.

William James Erasmus Wilson, son of a naval surgeon, was born in 1809, in High Street, Marylebone, at the house of his maternal grandfather, Erasmns Bransdorpl, a Norwegian. He took the diploma of the College of Surgeons in 1841, and was soon appointed Demonstrator of Anatomy in University College. He had great skill as a draughtsman, and the neatness of his dissections soon attracted general attention. He founded the Sydenham College School of Anatomy, which, however, proved a failure. Some years of struggle followed, during which he took pupils and practised in Charlotte Street, Fitzroy Square. At the suggestion of Wakley, the editor of the *Lancet*, with which paper he was connected, first as sub-editor, afterwards as a writer, Wilson turned his attention to skin diseases, and on these he became an authority without a rival. He visited the East to study leprosy, Switzerland and the Vallois to examine goitre, and Italy in order to become more closely acquainted with pellagra and other skin diseases affecting the underfed and dirty vegetarian peasantry.

It is unquestionable that he knew more about skin diseases than any man of his time. He cured where others had failed, and his many works on dermatology, though they met with pretty searching criticism at the time of their appearance, have nearly all maintained their position as text-books. To the College of Surgeons he has been, after John Hunter, the greatest benefactor. He was President of the College in 1881, and three years later he received its Honorary Medal, which is very rarely bestowed. At an expense of £5,000 he founded the Chair of Dermatology, of which he was the first occupant.

Skillful investments in the shares of gas and railway companies made him a wealthy

man, and he devoted his riches to various charitable objects, for he was a distinguished Freemason. He restored Swanseombe Church, and he founded a scholarship at the Royal College of Music. He was a large subscriber to Epsom College, where he built, at his own expense, a house for the headmaster. At a cost of nearly £30,000 he built a new wing and chapel at the Seabathing Infirmary, Margate, and in 1881 he established a Chair of Pathology in the University of Aberdeen, where the degree of LL.D. had been conferred upon him. He was particularly interested in the study of Egyptian antiquities, and he defrayed the expenses—about £10,000—connected with the transport of Cleopatra's Needle from Egypt to the Thames Embankment. He was knighted in 1881. After the death of Lady Wilson, the bulk of his property, amounting to upwards of £210,000, reverted to the Royal College of Surgeons.

His generosity to poor patients who came to consult him was very great, not only prescribing for them gratis, but supplying the means for carrying out the treatment, and that not only after he became wealthy, but even at a time when he could ill afford to be generous. The amount of good he did privately will probably never be known.

Mr. Richard Quain began life as a pupil to an apothecary. Coming to London, he graduated at London University, and began to make a name for himself. After he had discovered the true nature of fatty degeneration of the heart, the profession began to think well of him. He was an untiring worker, and after seeing patients all day, found time to edit a dictionary of medicine all night. He was a fine teller of stories, and was extremely popular with all who knew him.

It was mainly due to Quain that the order of Licentiates was established by the College of Physicians, a step important in itself and forming the basis of popular extension and of financial prosperity to the College.

At the age of forty-four he was elected by Queen Victoria to serve in the Senate of London University, and it is common knowledge how well he justified the choice.

Sir Richard Quain's literary work and his researches into various departments of medical science were, if not numerous, very important. As a member of the Royal Commission appointed in 1865 to consider the question of rinderpest, or cattle plague, he took a prominent part, and was an earnest advocate of the stamping out measures

recommended by the Commission, which, though strongly opposed at the time, subsequent events have proved to have had the result of saving large sums of money to the nation. His writings have been chiefly concerned with injuries and diseases of the heart; but the great work with which his name will ever be associated is that of the "Dictionary of Medicine." For this encyclopædia of medical science he had carefully selected the contributors from the most eminent members of the profession. The work filled a long-felt want, and to this day remains the standard book of its kind.

Quain acquired early a large and fashionable practice in London. He attended both Thomas Carlyle and his wife, and was also the personal friend and medical adviser of Sir Edwin Landseer.

Mr. Jonathan Hutchinson has for many years held one of the highest reputations amongst medical men in this country as a careful observer, an earnest inquirer, and an operator of exceeding skill. Though he has made his name as a specialist, his study is the whole of medicine. A brother surgeon once said of him: "I do not believe in specialists, but I believe in Hutchinson because he is a specialist in everything." He always carries with him four pairs of spectacles. It was due to Mr. Hutchinson that the Polyclinic or Post-Graduate School of Medicine was founded in London. He has taken much interest in educational museums as a means of popular education; he has arranged one at Haslemere and another at Selby.

In college politics he is what is called a reformer. He was always interested in the Museum of the College of Surgeons, to which he has made many valuable contributions of specimens and drawings, and devoted much time. Indeed, he evinces the strongest interest in all biological matters, and at his country residence at Haslemere has made many experiments. He possesses a profound knowledge of every branch of his profession, and his colleagues seek and highly value the opinions he is able to form and express on many and most difficult subjects. As a personality, Mr. Hutchinson is attractive from every point of view. He betrays his Quaker descent in his reserved and quiet manner and in the gentle kindness of his disposition. Yet he is emphatically a very strong man and a striking ornament to the medical profession. His activity in the cause of scientific surgery, and his contributions to medical literature, are phenomenal.

In addition to editing the "Archives of Surgery," he has produced an atlas of clinical surgery which may be considered unique. His lectures on neuropathogenesis, gout, leprosy, and diseases of the tongue, are full of original observations.

There is no more popular figure in London than that distinguished physician Sir Felix Semon. He rode with the Uhlans in their march into France in 1870. When he came to London, he was attached to the Golden Square Throat Hospital, which determined his career. He has written many learned and valuable books, and possesses many decorations. He is, perhaps, one of the most amusing *raconteurs* in London, and to sit next to him at a dinner-party is a privilege much desired. To these social advantages he adds a peculiar faculty for the playing of Bridge. The King honours him with his friendship.

Sir Francis Laking, Physician in Ordinary to the King, is a courtly gentleman with considerable tact and a strong sense of humour. Sir Francis was born in 1847, and received his medical education first at the University of Heidelberg, Germany, where he took the degree of M.D., and at St. George's Hospital, where he was Medical Registrar for three years. His other medical appointments are Consulting Physician to the Victoria Hospital for Children and the Gordon Hospital for Fistula. He has gathered a large and fashionable *clientèle* into his practice. At the bedside he is probably at his best, for no one has a greater appreciation of a patient's idiosyncrasies than he. Sir Francis is the embodiment of discretion and tact, as his numerous appointments at St. James's testify. By a curious anomaly he is at once Physician, Surgeon, and Apothecary to the King, probably the first man in English medical history to combine the three offices. Then he holds, too, a medical appointment to the Prince of Wales, the Duke of Connaught, and Princess Christian, in addition to having the medical care of their households. From the point of view of knightly orders he has received more attention than has fallen to the lot of any living English practitioner. But it must not be forgotten that Sir Francis had no small share in nursing back to health and strength King Edward when he lay between life and death. The King, be it said, cherishes a warm regard for his favourite physician.

Professor Ray Lankester is one of the best-known figures, and not a small figure at that, in London Society. He is a Bohemian of

the scientific world, without a pinch of dry-as-dust pedantry about him. He was born in an atmosphere of the 'ologies. His father was a friend of Huxley, and the son was conducting microscopic experiments on frogs at the age of eight. He went to Cambridge and migrated to Oxford, winning a scholarship. A travelling fellowship subsequently sent him abroad to study under *savants* of Continental reputation. He has sat a night on the top of Vesuvius in eruption, and has been fired on by Italian brigands. He is unequalled as a drawer of diagrams and maker of apt words to describe strange creatures. Find him a new beast, and he will love you. As his biographer said of him, "his religion is the worship of all sorts of winged and finny freaks. His bluntness conceals a hatred of oppression which has made him the champion of the unfortunate."

Hugh Lyon Playfair, first Lord Playfair of St. Andrews, was the son of George Playfair, Inspector-General of Hospitals in Bengal. He was born in 1819, at Meerut, but was educated at Glasgow University. Not only did Lord Playfair promote the science of preventive medicine, but he also played, during some thirty years of parliamentary life, a prominent part in perfecting the machinery by which its principles are administered for the public benefit. In 1834, at fifteen years of age, he began to study chemistry under Graham, Professor at Glasgow. After a short visit to his parents in India, he followed Graham to London, and in 1838 he went to Giessen to study under Liebig, then the rising star in the chemical firmament. He not only became Liebig's pupil, but his friend. A few years after his return to England he accepted an appointment at Manchester, where he found congenial society in Dalton and Joule. It was whilst at Manchester that Playfair induced Bunsen, who had just perfected his process of gas analysis, to come over to Alfreton to collect the gases of the blast furnace. He was subsequently appointed Professor of Chemistry in the University of Edinburgh, where he had for a time King Edward and the late Duke of Edinburgh as pupils. In the meantime he was engaged in considerable public work, and served on several Commissions with a zeal and self-sacrifice which ought to be gratefully remembered. No one appreciated more than he the great value of educating mankind in matters concerning public health. His essays, addresses, and memoirs deal largely with hygienic subjects, which, he advocated, should be

tought in a scheme of higher education. In 1862, Playfair entered Parliament as the representative for the Universities of Edinburgh and St. Andrews, and during his retention of this seat for seventeen years he occupied the position at one time of Postmaster-General under Mr. Gladstone, and at another that of Chairman of Ways and Means in the "Eighty" Parliament. Despite the demands of a publicly active life, Lord Playfair found time to take up his pen and to write on literary, scientific, and financial topics. It is to him that we owe the first movement with regard to technical instruction, and his name will go down to posterity as "one who loved his fellow-man."

A very good story is told of Lord Playfair's *savoir faire* at the opening of the Exhibition of 1851, where it was, of course, desirable to have all nations represented. A very gaily dressed Chinaman found himself in the procession side by side with the Archbishop of Canterbury, and was about to be removed to some less conspicuous position, when the Prince Consort desired he might be left where he was. Playfair's efforts had been successful in obtaining the recognition of China, for, in the absence of any yellow-jacketed mandarin as ambassador, Playfair had got hold of the Chinese ticket-collector of a junk then being exhibited in the docks!

Two great foreigners are included in our present gallery. Professor Rudolf Virchow was probably one of the ablest, if not the ablest, exponents of medical science that ever lived. At the age of thirty he had made himself a reputation as one of the rising men in the study of pathology. From Würzburg, where his early fame had increased so rapidly, he went to Berlin. He invented cellular pathology, and wrote highly esteemed volumes on the unpleasant subject of the formation of tumours; he lectured on life and disease; he wrote essays on the physical evolution of the Germans; and in various other manners made the obscure clear, and added to the reputation he already bore.

No man studied more closely the manners and customs of a greater number of people. In his museum was a unique collection of skulls. He was so devoted a teacher that he began to lecture at six o'clock in the morning; yet, with all his hard work, he made a name for himself as a Radical in the Prussian Parliament. He was an admirer of English freedom, a defender of privileges, and an editor of popular lectures. He spent his life modestly in a small flat. He had a fine sense

of humour. How he got through all the work that he did was ever a puzzle to his friends. He was singularly untidy.

Virchow was as much at home in the dissecting-room as when doing his duty as physician at the bedside. In dissecting he made use of a special knife, which he called the pathologist's sword, and he displayed wonderful expertness and faultless accuracy. Holding a brain in his hand, he would cleave it in parallel planes, so that it was divided as the leaves of a book, to open and close at any portion, so that the whole could afterwards be replaced in the cranium with but little sign of mutilation.

In the war of 1870, Virchow and his son both joined the Army, serving in the capacity of surgeons in the field. They did their full measure of duty, conspicuously upon the field of Metz.

Virchow never ceased to be interested in politics, though in later life he corrected the immaturity of his early opinions. He entered first the Prussian, and, after the war in 1870, the Imperial German Diet. He became a leader of the Liberal Party, and opposed arbitrary government, military encroachments, and the formation of a German Fleet, while he advocated peace, economy, and care for the material welfare of the people. It was in 1862 that he came first into conflict with Bismarck, who had become Prime Minister. Virchow, who was leader of the Radicals, by his advanced views and cogent reasoning speedily earned for his policy the opprobrious designation of *Professorismus*, applied by the Iron Chancellor. During this time Virchow went on with his demonstrations and lectures at the Charité Hospital, under the surveillance of the police. During the war with Austria in 1866, Virchow was the Chairman of the Finance Committee, and opposed the policy of the Government, succeeding in defeating an appropriation for naval purposes that had been demanded by Bismarck, who thereupon challenged his successful antagonist to mortal combat. Virchow declined the duel, but continued his opposition. However, in the main he agreed with that portion of Bismarck's policy that involved the construction of the German Empire. It was probably this fact which prompted the Chancellor, before his own retirement under the present Emperor, to apologise publicly for the many asperities which had characterised his previous attitude towards the great *savant*.

Having in mind the many bitter controversies, medical, scientific, political, and

municipal, he had indulged in, Virchow prefaced his collected writings thus: "No doubt science cannot admit of compromises, and can only bring out the complete truth. Hence, there must be controversy, and the strife may be, and sometimes must be, sharp. But must it, even then, be personal? Does it help science to attack the man as well as the statement? On the contrary, has not science the noble privilege of carrying on its controversies without personal quarrels?" Virchow never quite accepted, nor perhaps appreciated, Darwin's great work, and he scarcely realised the advance of pathology in its bacteriological and experimental departments.

The portrait of Pasteur, by Tissot, was one of the most inspired portraits of that artist. It presents to us a vivisector who was fond of animals, and his life gave warrant for that theory. He first made his name in Europe as a chemist, and was already known to every man of science before he tackled the dreaded malady, hydrophobia. It cannot be said that the treatment which he invented was at all times successful, but he and his followers have progressed far towards the cure. He ever worked incredibly hard, and once brought on himself an attack of paralysis by his continual labours. He was a singularly kindly hearted and humane man.

Pasteur had an extraordinary power of concentrating his attention upon a single subject, and perhaps the most important part of his work was done in those hours when he

would sit silent and immovable, deep in thought, occupied with some difficult problem, allowing nothing to disturb or distract him until he had found some solution. But when he had discovered a key to the difficulty, the whole expression of his face would alter, and he would eagerly communicate to those around him the experiments he had planned and the hopes of success which he cherished.

Pasteur was intensely patriotic, and the war of 1870 plunged him into a melancholy depression, and he sent back to the University of Bonn his diploma as M.D., which they had conferred upon him in 1868. He said: "To-day, the sight of this parchment is odious to me, and I feel insulted to see my name, with the designation of *Virum clarissimum* with which you endowed it, placed under the auspices of a name since devoted to the hatred of my country — that of Rex Guilelmus." It will be remembered that this feeling of antipathy and patriotic resentment never wore off, for at the Kiel Canal festivities, some ten years ago, the Berlin Academy, at the instigation of the Kaiser, offered Pasteur, in the most flattering terms, a Prussian distinction. He replied that, whilst appreciating the honour as a *savant*, he could not, as a Frenchman, forget the war of 1870, and that he would never be able to accept a German decoration.

Rénan has eloquently said of Pasteur: "His scientific life is like a luminous trail in the great night of the infinitely little, in those ultimate abysses of being where life is born."

B. FLETCHER ROBINSON and CHARLES R. HEWITT.

